Centre for Public Health Research

Annual Report 2007
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Directors
Neil Pearce – Professor and Director
Jeroen Douwes – Associate Director

Support Staff
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Haidee MacKenzie – Laboratory Technologist
Hilary Nuttall – Administrator
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Andrea ‘t Mannetje – Research Fellow
Ate Moala – Doctoral Research Fellow
Christine van Dalen – Research Fellow
Collin Brooks – Research Technician
Dave McLean - Research Fellow
Elizabeth Harding – Research Nurse
Erin Holmes – Research Fellow
Fiona McKenzie – Doctoral Research Fellow
Heather Duckett – Research Nurse
Juliet Irvine – Research Assistant
Ken Huang – Research Fellow
Lis Ellison-Loschmann – HRC Postdoctoral Research Fellow
Michelle Gray – Māori Health Research Fellow
Mona Jeffreys – Senior Research Fellow
Naomi Brewer – Doctoral Research Fellow
Ridvan Firestone – HRC Postdoctoral Research Fellow
Shirley-Belle Brogan – Research Nurse
Sunia Foliaki – HRC Postdoctoral Research Fellow
Tania Slater – Māori Health Research Fellow
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Alister Thomson      Lucy Shum-Pearce
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Anna Shum-Pearce     Nicky Curran
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Emma Nuttall         Phoebe Tupu
Hayden Bennett       Siloma Masina
Giovanna Le Gros     Tracey Whaanga
Joy Stubbs           Vivien Yeung
Kelly Gray           Zoe Harding
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Honorary Research Fellows
Barry Borman – Epidemiology
Bill Glass – Occupational Health
Chris Walls – Occupational Health
Deborah Read – Public Health
Diana Best – Cancer Control
Evan Dryson – Occupational Health
Paul White – Public Health Intelligence
Phil Shoemack – Public Health
Wendyl D’Souza – Neuroepidemiology

Waiora
Cindy Kiro – Associate Professor and Director of Waiora
(currently on leave)

Research School of Public Health
Xiang Ting Chen (Jo) – IT Consultant
The Centre for Public Health Research (CPHR) is a multidisciplinary team of researchers based on the Massey University Wellington campus. It is part of the Massey University Research School of Public Health, together with the Research Centre for Māori Health & Development, the Sleep/Wake Research Centre, the Social and Health Outcomes Research and Evaluation (SHORE) Centre and Te Ropu Whariki.

CPHR was established in 2000. Our research programme covers all aspects of public health research, but with a focus on:

- Non-communicable disease (respiratory disease, cancer, diabetes)
- Māori health
- Pacific health
- Occupational health
- Environmental health
- Socioeconomic determinants of health

CPHR recognizes the importance of the Treaty of Waitangi and its relevance to our work. We have a long history of involvement with Māori research and policy development including the Māori Asthma Review, the Wairarapa Māori Asthma Project, and the Hauora Tamariki project. Much of our Māori health research is done in collaboration with the Research Centre for Māori Health & Development. We are also committed to employing and training Māori health researchers.
The Centre is based in the College of Humanities and Social Sciences, but we also work with researchers at other Massey Colleges and campuses, as well as with researchers at other institutions including the Malaghan Institute for Medical Research (MIMR), the Airway Research Centre (John Hunter Hospital, Newcastle, Australia), Public Health Intelligence (Ministry of Health), the Massey University Veterinary Epicentre, the Massey University Institute of Food, Nutrition and Human Health, the Institute for Risk Assessment Sciences (IRAS) at the University of Utrecht (The Netherlands), the US National Cancer Institute (NCI), the Centre de Recerca en Epidemiologia Ambiental (CREAL, Barcelona, Spain), the Postgraduate School of Occupational Health (Milan, Italy), the Department of Biomedical Sciences and Human Oncology, University of Turin (Turin, Italy), the Department of Epidemiology and Preventive Medicine, Monash University (Melbourne), the University of Auckland Department of Paediatrics, the Department of Social Medicine, University of Bristol (United Kingdom), and the International Agency for Research on Cancer (Lyon, France).

Although our main activity is research, we also work with organisations such as the Ministry of Health (MoH), Department of Labour (DoL), the Accident Compensation Corporation (ACC) and various non-governmental organisations, unions and companies to ensure that the findings of research are relevant to, and applied in, public health policy. In particular, we have served on a number of advisory committees for the Health Research Council, the MoH, the Minister of Health, ACC, the Minister for ACC, the DoL and the Minister of Labour.
The Year in Review

The last year has seen major developments in the work of the Massey University Centre for Public Health Research (CPHR) with considerable success in obtaining new research funding.

Despite the current severe shortage of health research funding, we had a successful year with $2.4 million of new funding, including three Health Research Council (HRC) project grants for occupational health research (funded jointly by the HRC and the Department of Labour (DoL)), two occupational health research grants from the Accident Compensation Corporation (ACC), two cancer research grants from the United States National Institutes of Health (NIH), and a number of other research grants in asthma, cancer, Pacific health and occupational health from Lotteries Health Research, the Cancer Society, the Genesis Oncology Trust, the DoL, the Ministry of Health (MoH), and Massey University.

Recognition of the work of CPHR was also reflected in 2007 with the award of the Massey University Research Medal (Individual) to Professor Neil Pearce, Director of CPHR.
During 2007 we continued work on our major HRC-funded study of factors in farming that protect against asthma in farmers’ children and their parents. Phases I and II of the study have been completed, and we are now conducting Phase III of the study which is examining the immune status of babies born on farms and a group of control babies.

We also continued work on our study investigating the hypothesis that endotoxin exposure later in life may reverse pre-existing allergies and allergic diseases. We are examining this in a prospective cohort of previously unexposed allergic adults who are starting a work career in industries with moderate to high endotoxin exposures. If endotoxin exposure is indeed associated with a lower prevalence of allergies in adults then potentially vaccines could be developed, not only to protect against, but also to treat allergic disease (e.g. allergic asthma, hay fever, eczema), both in children and in adults.

We are also continuing to work on the International Study of Asthma and Allergies in Childhood (ISAAC). Neil Pearce is a member of the ISAAC Executive and the ISAAC Steering Committee. He was first author of the Phase III report on global trends in asthma prevalence that was published in Thorax in 2007. Sunia Foliaki is Regional Coordinator for Oceania and a member of the Steering Committee. We have completed the ISAAC Phase III study in Wellington, and in Tonga, Fiji Islands, Cook Islands, Samoa, Niue, Tokelau Islands, French Polynesia and New Caledonia.

During 2007 Christine van Dalen also continued work on a study of the role of the lung macrophage in asthma pathology, with funding from the Marsden Fund.
Our cancer research programme not only includes studies of occupational cancer (see below), but also studies of cancer survival and a case-control study of breast cancer (with funding from Lotteries Health Research, the Cancer Society of New Zealand, and the Health Research Council).

In 2007, Dr Lis Ellison-Loschmann returned from the Centre de Recerca en Epidemiologia Ambientale (CREAL) and the Institut Catalan d’Oncologia (ICO) in Barcelona, Spain, where she spent two years as part of her four-year HRC-funded Postdoctoral Fellowship for studies of cancer epidemiology in Māori.

In addition we have been conducting a series of analyses, in collaboration with Public Health Intelligence and the New Zealand Health Information Service (Ministry of Health) of ethnic and socioeconomic differences in cancer survival.

Finally since 2005, CPHR has been contracted by the Ministry of Health to carry out independent monitoring of the national cervical screening programme. This involves regular meetings of the Independent Monitoring Group (IMG) and the production of quarterly and annual reports.

Other non-communicable disease research has included a series of analyses, in collaboration with Public Health Intelligence of mortality in patients with diabetes.

We have also conducted a series of analyses in collaboration with the New Zealand Hepatitis Foundation to examine mortality, cancer incidence, and diabetes incidence in patients screened for diabetes using the HbA1c test.
In 2007 we completed an HRC/DoL-funded study of health outcomes in former New Zealand timber workers exposed to pentachlorophenol (PCP), and submitted the report to the DoL.

We are conducting a series of case-control studies of bladder cancer, non-Hodgkin’s lymphoma (NHL), leukaemia, and lung cancer, to quantify the proportion of cases of these cancers due to known occupational exposures, and to identify new occupational causes of these cancers. The first reports (for the bladder, NHL and leukaemia studies) were submitted for publication in 2007. These studies are funded by the HRC, ACC, Lotteries Health Research, and the Cancer Society.

We are continuing the development of a New Zealand Job-Exposure-Matrix (NZJEM) which will be used to assess occupational exposures on the basis of work histories.

We are also conducting an HRC-funded study of dioxin exposures and health effects in former phenoxy herbicide production workers.

In addition, 2007 has seen a major expansion of our programme of occupational and environmental health research with funding for six new studies. These include: (i) an NIH grant for data analysis of an international collaborative study of occupational risk factors for brain tumours; (ii) an NIH grant for data analysis of an international collaborative study of occupational risk factors for NHL; (iii) ACC funding for a study of airborne hazardous substances in the wood conversion sector; (iv) funding from the DoL and the HRC for a study of workplace exposure to carcinogens in New Zealand; (v) funding from the DoL and the HRC for a study of occupational asthma in New Zealand sawmill workers; and (vi) funding from the DoL and the HRC for a study of occupational dermatitis in New Zealand cleaners.
Māori Health

In 2007, Dr Lis Ellison-Loschmann returned from the Centre de Recerca en Epidemiologia Ambientale (CREAL) and the Institut Catalan d’Oncologia (ICO) in Barcelona, Spain, where she spent two years as part of her four-year HRC-funded Postdoctoral Fellowship for studies of cancer epidemiology in Māori. Lis is conducting a case-control study of breast cancer in Māori.

She is also developing a case-control study of causes of gastric cancer in Māori, together with colleagues at the Auckland School of Medicine.

Pacific Health

Dr Sunia Foliaki is coordinating the ISAAC Phase III study in the Pacific. The ISAAC Phase III study has been conducted in Tonga, Samoa, Fiji Islands, Cook Islands, Niue, Nauru and the Tokelau Islands. Further studies include an asthma self-management trial in Tonga funded by the Wellcome Trust. Dr Foliaki was awarded his PhD for this work in 2007.

Dr Foliaki was awarded an HRC Pacific Health Postdoctoral Fellowship for studies of cancer in Pacific populations, which he commenced in September 2007. This includes an HRC-funded study of cancer in Tonga, Samoa, Niue, and Fiji.

Dr Ate Moala is conducting research into a health promotion model for fanau Pasifiki and their families with funding from an HRC Pacific Health Research Training Fellowship.

Dr Ridvan Firestone is undertaking an HRC-funded Postdoctoral Fellowship in Pacific Health research, which commenced in mid-2006. Her work includes the establishment of the New Zealand internet-based birth cohort study, and the conduct of the Pacific arm of our case-control study of early life factors and breast cancer risk.
Teaching

The Massey University Research School of Public Health Master of Public Health (MPH) Programme includes a Postgraduate Diploma in Public Health (PGDipPH) which commenced in 2005; it involves the equivalent of one year fulltime study (four 30 point papers of which two are compulsory – the core paper, and a research project). The programme involves an applied approach to public health education and training that is different from existing public health qualifications, integrating public policy more strongly with public health, and also providing the opportunity for a greater emphasis on Māori health and Pacific health. An MPH-by-thesis option has been available since 2004 for candidates who have already completed an equivalent of the PGDipPH.

Concluding Remarks

In closing, we wish to thank all research collaborators involved in our various projects who have played an important role in ensuring a productive year, the agencies who have funded this programme of research, and all those who have participated in our studies.

We also wish to thank Massey University and its staff for its excellent support for our research programme.
1. The current and future burden of occupational ill health

AIMS:

1. To assess, through telephone interviews, current exposures and work practices in a random sample of the workforce.

2. To conduct more detailed exposure assessments in selected key industries through workplace visits, more detailed questionnaires, industrial hygiene measurements, and ergonomic assessments.

3. To further develop a New Zealand Job-Exposure-Matrix (NZJEM) based on the categories of the New Zealand Standard Classification of Occupations (NZSCO).


5. To assess the current burden of occupational ill-health in New Zealand.

6. To identify current and emerging hazards that account for, or will account for, a significant burden of occupational ill-health.

FUNDING: Health Research Council of New Zealand (HRC), Accident Compensation Corporation (ACC), Department of Labour (DoL)

RESEARCHERS: Neil Pearce, Bill Glass, Dave McLean, Andrea 't Mannetje, Lis Ellison-Loschmann, Jeroen Douwes, Amanda Eng, Soo Cheng

COLLABORATORS: Professor Philippa Gander (Sleep/Wake Research Centre), Professor Stephen Legg, Dr Ian Laird (Centre for Ergonomics, Occupational Safety and Health), Dr Barry Borman, Craig Wright (Public Health Intelligence)

KEY WORDS: Occupational Health, Exposure
2. Health outcomes of former New Zealand timber workers exposed to pentachlorophenol (PCP)

AIMS:
1. To ascertain whether timber workers exposed to PCP are dying more often than other workers of comparable sex and age.
2. To ascertain whether timber workers exposed to PCP are getting cancer more often than other workers of comparable sex and age.
3. To ascertain whether timber workers exposed to PCP are experiencing more hospital admissions than other workers of comparable sex and age.
4. To determine whether chronic health problems such as fever/sweating, weight loss, persisting fatigue, nausea and neuropsychological dysfunction are more common in timber workers who worked with PCP than in other timber workers.
5. To determine whether the prevalence of these symptoms is related to past PCP exposure.

FUNDING: Health Research Council of New Zealand (HRC), Department of Labour (DoL)

RESEARCHERS: Dave McLean, Neil Pearce, Andrea ‘t Mannetje, Chris Walls, Evan Dryson, Lis Ellison-Loschmann, Tania Slater, Amanda Eng, Elizabeth Harding, Collin Brooks

COLLABORATORS: Dr Phil Shoemack (Bay of Plenty District Health Board), Dr Barry Borman (Public Health Intelligence, Ministry of Health)

KEY WORDS: Cancer, Occupation, Chronic Disease, Timber Workers
3. Workplace exposure to carcinogens in New Zealand

AIMS:

1. To conduct a review of the occupational causes of cancer and the known solutions for reducing and/or preventing exposures.

2. To construct a New Zealand specific Information System on Occupational Exposure to Carcinogens (NZ-CAREX).

3. To construct a New Zealand specific Agricultural Chemicals Exposure Matrix (NZ-ACEM).

4. To identify key industries and key carcinogens for which intervention would result in marked reductions in occupational cancer.

5. To evaluate practice, knowledge and attitudes of employers, employees and health and safety personnel about workplace carcinogens and intervention strategies, in key New Zealand industries.

6. To engage industry and other relevant stakeholders in this.

7. To build research capacity and partnerships in the field of workplace exposure to carcinogens.

FUNDING: Department of Labour (DoL), Health Research Council of New Zealand (HRC)

RESEARCHERS: Andrea ‘t Mannetje, Neil Pearce, Dave McLean, Jeroen Douwes, Evan Dryson, Chris Walls, Lis Ellison-Loschmann, Sunia Foliaki, Tania Slater

COLLABORATORS: Dr Aaron Blair (US National Cancer Institute), Professor Hans Kromhout (IRAS, University of Utrecht), Dr Paolo Boffetta (International Agency for Research on Cancer)

KEY WORDS: Occupational Health, Cancer, Epidemiology, Exposure Assessment
4. Occupational asthma in New Zealand sawmill workers

AIMS:

1. To assess the incidence of occupational asthma in previously unexposed newly or recently recruited sawmill workers.
2. To assess the incidence of decline in lung function in previously unexposed newly or recently recruited sawmill workers.
3. To assess whether dust exposures in the sawmill work environment are associated with these effects.
4. To assess which specific work-related factors increase the probability of a favourable prognosis after the diagnosis of occupational asthma.
5. To assess which preventive programmes are likely to be most effective.

FUNDING: Department of Labour (DoL), Health Research Council of New Zealand (HRC)

RESEARCHERS: Dave McLean, Jeroen Douwes, Neil Pearce, Chris Walls, Evan Dryson, Ridvan Firestone, Tania Slater, Amanda Eng

COLLABORATORS: Professor Chris Cunningham (Research Centre for Māori Health and Development), Professor Paul Demers (University of British Columbia)

KEY WORDS: Occupational Health, Epidemiology, Respiratory Disease, Asthma, Sawmill Workers
5. Occupational dermatitis in New Zealand cleaners

AIMS:

1. To assess the prevalence of work-related dermatitis in New Zealand cleaners and compare it with a non-exposed reference group.

2. To assess what proportion of work-related dermatitis is new onset or incident dermatitis (as opposed to exacerbation of pre-existing dermatitis).

3. To assess the severity of work-related dermatitis based on symptom history and expert opinion.

4. To assess the cleaners’ exposure to cleaning agents and the frequency and duration of "wet work".

5. To assess the associations between cleaning exposures and wet work, and work-related dermatitis.

6. To assess which factors increase the probability of a favourable prognosis after the diagnosis of occupational dermatitis.

7. To assess which preventive programmes are likely to be most effective.

FUNDING: Department of Labour (DoL), Health Research Council of New Zealand (HRC)

RESEARCHERS: Jeroen Douwes, Dave McLean, Neil Pearce, Ridvan Firestone, Chris Walls, Evan Dryson, Sunia Foliaki, Tania Slater

COLLABORATORS: Dr Lissa Judd (Anwyl Specialist Medical Centre), Professor Pieter Jan Coenraads (University of Groningen)

KEY WORDS: Occupational Health, Epidemiology, Skin Disease, Dermatitis, Cleaners
6. Exposure to airborne hazardous substances in the wood conversion sector

AIMS:

1. To conduct a comprehensive review of the literature that will provide an overview of the key airborne exposures associated with elevated risks of cancer, respiratory morbidity and mortality, and other work-related illnesses in the New Zealand wood conversion sector.
2. To compare exposure levels reported in the literature with national and international limits.
3. To assess the prevalence of these exposures in the New Zealand wood conversion sector.
4. To assess which strategies have been most effective in reducing exposure in other countries.
5. To conduct an exposure survey in the New Zealand plywood, veneer, and fibre/particle board manufacturing industry involving measurements of airborne substances including wood dust, formaldehyde, and fungal and bacterial toxins.
6. To adapt and validate an international department-exposure-matrix (PAPDEM) for airborne exposures in the pulp and paper industry for future use in New Zealand, and to develop a job exposure matrix for the New Zealand plywood, veneer, and fibre/particle board manufacturing industry.
7. To estimate the risks to health of such exposures in the New Zealand wood conversion sector.
8. To consult with the key stakeholders in the wood conversion sector to assess attitudes, perceptions and behaviours regarding health and safety, sources of information, and possible interventions for the reduction of exposure to airborne substances causing work-related illnesses in this industry.

FUNDING: Accident Compensation Corporation (ACC)
RESEARCHERS: Jeroen Douwes, Dave McLean, Andrea ‘t Mannetje, Neil Pearce
KEY WORDS: Occupational Health, Respiratory Disease, Cancer, Wood Industry, Epidemiology
7. Upper gastrointestinal cancer in Māori

AIMS:

1. To identify potential points of intervention to reduce both population and individual risk of gastrointestinal cancer in Māori.
2. To improve the outcomes for those that do develop the disease, by identifying potential changes to patterns of care that will optimise treatment procedures.

RESEARCHERS: Lis Ellison-Loschmann, Mona Jeffreys, Michelle Gray, Neil Pearce

COLLABORATORS: Associate Professor Jonathan Koea, Andrew Sporle (Apollo Centre), Pauline Harawira (KimihaUora Trust), Associate Professor Parry Guildford (University of Otago)

KEY WORDS: Māori Health, Cancer
AIMS:
1. To conduct a pooled analysis of 9 NHL case-control studies from North America, Europe, and Australia, to study the association between occupational risk factors and NHL, in different populations.
2. To investigate occupational risk factors previously found to be associated with NHL, using uniformly defined indicators for occupational exposure.
3. To evaluate risk by NHL subtype, using a standard NHL classification based upon histologically confirmed diagnoses.

FUNDING: US National Institutes of Health (NIH)
RESEARCHER: Andrea 't Mannetje
COLLABORATORS: Paolo Boffetta (International Agency for Research on Cancer, France), Pierluigi Cocco (University of Cagliari, Italy), Anneclaire De Roos (Fred Hutchinson Cancer Research Center, US), Silvia De Sanjose (Catalan Institute of Oncology, Spain), Geza Benke (University of Melbourne, Australia), Aaron Blair (National Cancer Institute, US), Paul Brennan (International Agency for Research on Cancer, France), Brian Chiu (Northwestern University, US), Patricia Hartge (National Cancer Institute, US), Elizabeth Holly (University of California), Eve Roman (University of York, UK), Adele Seniori Costantini (Centre for Oncologic Prevention, Italy), John Spinelli (BC Cancer Research Center, Canada), Tongzhang Zheng (Yale University, US)

KEY WORD: Non-Hodgkin’s Lymphoma, Pooled Analysis, Occupational Risk Factors
9. Asthma causation, mechanisms and prevention

AIMS:
1. To assess whether atopic sensitisation can be reversed over time in a working adult population newly exposed to moderate to high levels of endotoxin.
2. To assess whether there is a dose-response between endotoxin exposure and change in atopic status.
3. To assess the time period in which the reduction in atopy takes place.
4. To assess the association between endotoxin exposure and lung function and respiratory symptoms.
5. To assess whether a change in atopic status is associated with a change in lung function and respiratory symptoms.
6. To assess the level of exposure at which the protective effect on atopy is most effective and the adverse effects on the airways (induced by non-atopic mechanisms) are minimal.

FUNDING: Health Research Council of New Zealand (HRC)


COLLABORATORS: Professor Graham Le Gros, Dr Jacquie Harper (Malaghan Institute of Medical Research)

KEY WORDS: Asthma, Respiratory Disease, Occupational Health
AIMS:

1. To describe the prevalence and severity of asthma, rhinitis and eczema in children living in different centres and to make comparisons within and between countries.

2. To conduct ecologic analyses of the association of asthma prevalence with factors such as diet, infections, immunisation, air pollution and allergen levels.

3. To examine trends in asthma prevalence over time.

4. To provide a framework for further aetiological research into genetic, lifestyle, environmental and medical care factors affecting these diseases.

The International Study of Asthma and Allergies in Childhood (ISAAC) was developed and organized together with colleagues in Auckland, London and Münster. This study now includes more than 1,000,000 children in more than 280 centres in 100 countries. Our involvement includes:

- Sunia Foliaki is Regional Coordinator for Oceania and a member of the ISAAC Steering Committee.
- We are participating in the New Zealand ISAAC Phase III survey, and have conducted the survey in Wellington.
- Neil Pearce is a member of the ISAAC Executive and ISAAC Steering Committee, and is the ISAAC Publications Coordinator.

FUNDING: Health Research Council of New Zealand (HRC), Wellcome Trust

RESEARCHERS: Neil Pearce, Lis Ellison-Loschmann, Sunia Foliaki, Soo Cheng

COLLABORATORS: Professor Innes Asher (Auckland Medical School), Professor Bengt Björkstén (Karolinska Institute, Stockholm), Professor David Strachan (St George’s Hospital Medical School, London), Professor Luis Garcia Marcos (University of Madrid, Spain) and many other colleagues in more than 280 centres in 100 countries

KEY WORDS: ISAAC, Asthma, Respiratory Disease, Child Health
11. Chronic inflammation in asthma

AIMS:
1. To assess whether chronic inflammation in asthma is due to impairment in the ability of pulmonary macrophages to phagocytose apoptotic neutrophils and eosinophils.
2. To assess whether differences in the cell profile of asthma inflammatory phenotypes are due to differences in pulmonary macrophage phagocytic ability.

FUNDING: Marsden Fund

RESEARCHERS: Dr Christine van Dalen, Elizabeth Harding, Prachee Gokhale

COLLABORATORS: Dr Mark Hampton (Free Radical Research Group, Christchurch School of Medicine, Christchurch)

KEY WORDS: Asthma, Inflammation, Macrophage, Eosinophil, Neutrophil
12. Early life factors and breast cancer risk

AIMS:

1. To assess adolescent exposures which may be pertinent to breast cancer risk.
2. To investigate the relationship between the potential risk factors and breast cancer risk in the New Zealand population.
3. To investigate whether these relationships differ between ethnic groups.
4. To follow the cases to assess which factors affect cancer survival.

FUNDING: Health Research Council of New Zealand (HRC), Cancer Society of New Zealand

RESEARCHERS: Mona Jeffreys, Fiona McKenzie, Ridvan Firestone, Michelle Gray, Hilary Nuttall, Lis Ellison-Loschmann, Ate Moala, Sunia Foliaki, Neil Pearce

COLLABORATORS: Dr Peter Dady (Cancer Society of New Zealand), Professor George Davey Smith (University of Bristol, United Kingdom)

KEY WORDS: Breast Cancer, Early Life Factors, Life-course Epidemiology
13. Cancer in Pacific populations

AIMS:
1. To conduct descriptive analyses of cancer incidence and mortality in four Pacific countries (Tonga, Samoa, Fiji and Niue) and in Pacific people in New Zealand.
2. To conduct a case-control study of breast cancer in women which will be conducted in the same four Pacific countries in parallel with a similar study of Pacific women in New Zealand.

FUNDING: Health Research Council of New Zealand (HRC)

RESEARCHERS: Sunia Foliaki, Mona Jeffreys, Ate Moala, Lis Ellison-Loschmann, Diana Best, Neil Pearce

COLLABORATORS: Dr Lepani Waqatakirewa (Ministry of Health, Fiji), Dr Siale 'Aka'ula (Ministry of Health, Tonga), Dr Semisi Aiono (Ministry of Health, Samoa), Dr Hale Paka (Department of Health, Niue), Dr Paolo Boffetta (International Agency for Research on Cancer, Lyon, France), Dr Marc Goodman (University of Hawaii), Professor George Davey Smith (University of Bristol, United Kingdom)

KEY WORDS: Cancer, Breast Cancer, Pacific
AIMS:

1. To measure the prevalence of respiratory symptoms (with the focus on asthma) in farmers’ children and their parents, and in a comparison group from a non-farming population (Phase I).

2. To compare the prevalence of respiratory symptoms in children and parents in various types of farming (dairy, sheep & beef, and crop farming) (Phase I).

3. To measure the prevalence of atopy in a sample of children and their parents (farming and non-farming) in order to ascertain whether any protective effect of farming involves atopic mechanisms (Phase II).

4. To measure relevant environmental exposures in a sample of households (farming and non-farming) including house dust allergen and endotoxin, and to examine their association with the occurrence of atopy and asthma, while adjusting for other risk factors for asthma (Phase II).

5. To study through the conduct of an infant cohort study the immune status of babies born on farms, and control babies (Phase III).

FUNDING: Health Research Council of New Zealand (HRC)

RESEARCHERS: Jeroen Douwes, Neil Pearce, Soo Cheng, Elizabeth Harding, Heather Duckett, Shirley-Belle Brogan, Michelle Gray, Haidee MacKenzie

COLLABORATORS: Dr Joanna McKenzie (Massey University Veterinary Epicentre), Professor Graham Le Gros, Dr Jacquie Harper (Malaghan Institute of Medical Research), Dr Erika Von Mutius (University Children’s Hospital, Munich, Germany), Professor Chris Cunningham (Research Centre for Māori Health & Development)

KEY WORDS: Asthma, Respiratory Disease, Child Health, Occupation
AIMS:
1. To obtain an overview of the importance of occupational factors for bladder cancer, non-Hodgkin’s lymphoma, leukaemia and lung cancer in New Zealand.
2. To quantify the proportion of cases due to known occupational causes.
3. To identify new occupational causes of these cancers.

FUNDING: Health Research Council of New Zealand (HRC), Lotteries Health Research, Cancer Society of New Zealand, Accident Compensation Corporation (ACC)

RESEARCHERS: Evan Dryson, Chris Walls, Dave McLean, Neil Pearce, Soo Cheng, Andrea 't Mannetje, Fiona McKenzie, Heather Duckett

COLLABORATORS: Professor Hans Kromhout (IRAS, University of Utrecht, The Netherlands), Dr Paolo Boffetta (International Agency for Research on Cancer, Lyon, France), Dr Aaron Blair (National Cancer Institute, Washington DC, USA), Professor Chris Cunningham (Research Centre for Māori Health & Development)

KEY WORDS: Occupation, Cancer, Bladder Cancer, Non-Hodgkin’s Lymphoma, Leukaemia, Lung Cancer
16. Microbial and arsenic content of roof, well and public water supplies in rural New Zealand communities and impact on health

AIMS:
1. To assess the microbial water quality of roof, well and public water supplies in rural New Zealand.
2. To assess arsenic levels in roof, well and public water supplies in rural New Zealand.
3. To measure the association between water quality and health symptoms in rural New Zealand communities.

FUNDING: Massey University

RESEARCHERS: Jeroen Douwes, Neil Pearce, Soo Cheng, Elizabeth Harding, Heather Duckett

COLLABORATORS: Stan Abbott (Institute of Food, Nutrition & Human Health, Massey University)

KEY WORDS: Water Quality, Arsenic, Health, Farming
AIMS:
1. To document cancer survival rates in New Zealand and investigate whether these are comparable to those in other developed countries.
2. To describe differences in cancer survival rates in New Zealand according to gender, socioeconomic status and ethnicity.
3. To quantify the proportion of the socioeconomic and ethnicity differences which are attributable to differences in age or extent of disease at presentation.

FUNDING: Lotteries Health Research

RESEARCHERS: Mona Jeffreys, Lis Ellison-Loschmann, Sunia Foliaki, Neil Pearce

COLLABORATORS: Craig Wright, Dr Barry Borman, Dr Martin Tobias (Public Health Intelligence, Ministry of Health), Professor Tony Blakely, Dr Diana Sarfati (Wellington School of Medicine), Dr Vladimir Stevanovic (NZ Health Information Service, Ministry of Health).

KEY WORDS: Cancer, Survival
AIMS:
1. To examine the long term effects on mortality and cancer incidence in production workers and pesticide sprayers exposed to phenoxy herbicides, chlorophenols and dioxin contaminants.
2. To measure the dioxin levels and related biomarkers of dioxin toxic effects in the blood of former phenoxy herbicide production workers.
3. To determine whether dioxin levels are associated with higher cancer mortality and incidence in this population.
4. To determine whether dioxin levels are associated with chronic health problems and adverse reproductive outcomes in this population.
5. To determine whether dioxin levels are associated with biomarkers of dioxin toxic effects including effects on AhR-regulated biological functions.

FUNDING: Health Research Council of New Zealand (HRC)

RESEARCHERS: Andrea ‘t Mannetje, Dave McLean, Tania Slater, Amanda Eng, Shirley-Belle Brogan, Collin Brooks, Elizabeth Harding, Evan Dryson, Chris Walls, Neil Pearce

COLLABORATORS: Professor Manolis Kogevinas (Centre de Recerca en Epidemiologia Ambiental (CREAL), Barcelona), Professor Pier Bertazzi (University of Milan), Dr Rod Lea (Environmental Sciences and Research), Dr Barry Borman (Ministry of Health), Dr Patrick O’Connor (MidCentral Health).

KEY WORDS: Cancer, Occupation, Pesticides, Dioxin
Aims:

1. To obtain data on current levels of persistent organic pollutants (POPs) in human breast milk in New Zealand.
2. To compare these levels with previous levels and detect trends in POPs exposure.
3. To measure for the first time polybrominated diphenylethers (PBDE) in breast milk in New Zealand.
4. To use the collected New Zealand breast milk samples for inclusion in the fourth round of the WHO-coordinated study of human milk for POPs, thus providing an international comparison for levels of POPs.
5. To study the determinants of elevated levels of POPs in breast milk in New Zealand.
6. To provide recommendations for prioritising POPs for remedial action in New Zealand.

Funding: Ministry of Health

Researchers: Andrea 't Mannetje, Jeroen Douwes, Shirley-Belle Brogan, Heather Duckett, Lis Ellison-Loschmann, Neil Pearce

Collaborators: Dr Stuart Harrad, Professor Allan Smith

Key words: Breast Milk, POPs (Persistent Organic Pollutants), Dioxins, Polychlorinated Biphenyls (PCBs), Organochlorine Pesticides, Polybrominated Diphenylethers (PBDE)
20. Dioxin exposure levels in New Plymouth firefighters

AIMS:
1. To measure the individual serum dioxin levels of 40 firefighters previously stationed at New Plymouth.
2. To assess their health status through clinical examination.
3. To compare their dioxin levels with the dioxin levels of 20 firefighters never stationed in New Plymouth.
4. To determine whether dioxin levels are associated with chronic health problems and adverse reproductive outcomes of this population.

FUNDING: The New Zealand Fire Service

RESEARCHERS: Andrea 't Mannetje, Amanda Eng, Elizabeth Harding, Shirley-Belle Brogan, Tania Slater, Collin Brooks, Neil Pearce

KEY WORDS: Dioxin, Firefighters, Serum Levels, Phenoxy Herbicides
21. The New Zealand Internet-based birth cohort study

AIMS:

1. To establish a large dynamic cohort of infants who will be followed until adulthood.

2. To assess associations between a wide range of early life exposures/events/lifestyle factors and a broad range of health outcomes in early childhood including those listed below.

3. To assess the associations between maternal diet and congenital malformations, infant deaths, low birth weight, growth patterns up to age 18 months, hospital admissions in infancy, childhood obesity, and allergies and asthma symptoms.

4. To assess the associations between parental occupational exposures and congenital malformations, infant deaths, and low birth weight.

5. To assess the associations between domestic exposures to common cleaning agents during pregnancy and in the first few months after birth, and asthma symptoms in infants.

6. To assess the associations between indoor dampness and fungal exposure, and allergies and asthma symptoms in infants.

7. To assess the associations between ethnicity and/or low socioeconomic status and low birth weight, an increased risk of hospital admissions in infants, growth patterns up to 18 months, and obesity after two years of age.

8. To assess the associations between infant diet and allergy and asthma symptoms, and obesity after two years of age.

9. To provide a sampling frame for more detailed clinical studies on specific diseases by selecting subjects from the larger data base.

FUNDING: Health Research Council of New Zealand (HRC)

RESEARCHERS: Ridvan Firestone, Mona Jeffreys, Andrea 't Mannetje, Lis Ellison-Loschmann, Neil Pearce, Jeroen Douwes

COLLABORATORS: Dr Barry Borman (Public Health Intelligence, Ministry of Health), Dr Lorenzo Richiardi and Prof Franco Merletti (Epidemiology Unit, Department of Biomedical Sciences, Turin, Italy)

KEY WORDS: Birth Cohort, Congenital Malformations, Infant Deaths, Obesity, Respiratory Disease, Lifestyle Factors, Socioeconomic Status, Environmental Exposures Pesticides, Polybrominated Diphenylethers (PBDE)
1. Health effects of mobile (cellular) phones

**AIMS:**
1. To investigate whether mobile phone use causes brain cancer.
2. To investigate occupational causes of brain cancer.

**COLLABORATORS:** Professor Alistair Woodward (University of Auckland), Dr Angus Cook, Professor Tony Blakely (Wellington School of Medicine), Dr Elizabeth Cardis (International Agency for Research on Cancer)

**CPHR RESEARCHER:** Neil Pearce

**KEY WORDS:** Cancer, Environmental Health

2. The New Zealand Census Mortality Study

**AIM:**
To investigate measure socioeconomic differences in mortality in New Zealand.

**COLLABORATORS:** Professor Tony Blakely, Dr Clare Salmond, June Atkinson, Jackie Fawcett (Wellington School of Medicine), Professor Alistair Woodward, Professor Peter Davis (University of Auckland)

**CPHR RESEARCHERS:** Cindy Kiro, Neil Pearce

**KEY WORDS:** Social Class, Mortality
AIMS:
1. To evaluate the possible association between the occupational exposure to electromagnetic fields (EMFs) and tumors of the brain and central nervous system (specifically, glioma and meningioma).
2. To evaluate the possible association between selected occupational chemical exposures and tumors of the brain and central nervous system (specifically, glioma and meningioma).
3. To investigate the possibility of synergism and/or confounding between chemical and EMF exposures on the risk of brain cancers.

FUNDING: US National Institutes of Health (NIH)

COLLABORATORS: Elisabeth Cardis, Isabelle Deltour (International Agency for Research on Cancer), Geza Benke (Monash University), Joe Bowman Dave Conover (NIOSH), Maria Feychting, Nils Plato (Karolinska Institute), Martine Hours (Université Claude Bernard), Daniel Krewski (George Washington University), Susanna Lagorio (Istituto Superiore di Sanita), Patricia McKinney (University of Leeds), Marie-Elise Parent (INRS-Institut Armand Frappier), Siegal Sadetzki (Tel Hashomer), Brigitte Schlehofer (DKFZ German Cancer Research Center), Jack Siemiatycki (Université de Montréal), Martie Van Tongeren (The University of Manchester), Timo Kauppinen (Finnish Institute of Occupational Health), Franco Merletti (University of Turin).

CPHR RESEARCHER: Dave McLean

KEY WORD: Cancer, Electromagnetic Fields
4. Estimating the long-term health outcomes of people with epilepsy

AIMS:

1. To establish an epilepsy register in Tasmania.
2. To undertake a cross-sectional study of this community sample of people with epilepsy to investigate the prevalence of epilepsy syndromes, and their severity, epilepsy-related injuries and health service utilization.
3. To establish a community cohort of people with epilepsy which can be followed prospectively to monitor health outcomes, measure risk factors contributing to these outcomes if indicated (with second stage case-control studies), and perform intervention trials if considered appropriate.

COLLABORATORS: Dr Wendyl D’Souza, Dr Mark Cook, Dr Terry O’Brien (St Vincent's Hospital, Melbourne), Dr Bruce Taylor (Hobart Hospital, Tasmania), Professor Terry Dwyer (Menzies Centre, Hobart, Tasmania)

CPHR RESEARCHER: Neil Pearce

KEY WORD: Epilepsy
5. Centre for Māori Health Research and Development (HRC Programme Grant)

**AIM:**
Programme of research in Māori health, including studies of child health, mental health and the health of older Māori (Research Centre for Māori Health & Development HRC Programme Grant).

**COLLABORATORS:** Professor Mason Durie, Professor Chris Cunningham, Dr Maureen Holdaway, Dr Stephanie Palmer, Dr Te Kani Kingi, John Waldon, Dr Amohia Boulton, Sharon Taite (Research Centre for Māori Health & Development)

**CPHR RESEARCHER:** Neil Pearce

**KEY WORD:** Māori Health

6. The Glasgow Alumni Project

**AIM:**
To determine the influence of life-course exposure patterns on disease occurrence in later life.

**COLLABORATORS:** Professor George Davey Smith, Professor David Gunnell, Dr Bruna Galobardes (University of Bristol, UK)

**CPHR RESEARCHER:** Mona Jeffreys

**KEY WORDS:** Life-course Epidemiology, Cancer Cardiovascular Disease, Diabetes
7. The Glasgow Alumni Project
Mammography Study

AIMS:
1. To describe a novel technique of modeling volumetric breast density.
2. To determine the influence of life-course exposures on volumetric breast density.

COLLABORATORS: Professor George Davey Smith (University of Bristol, UK), Dr Peter McCarron (Queen’s University, Belfast, UK), Dr Ruth Warren (University of Cambridge, UK)

CPHR RESEARCHER: Mona Jeffreys

KEY WORDS: Life-course Epidemiology, Breast Cancer, Breast Density

8. Cardiovascular disease and oral health: The Glasgow Alumni Study

AIMS:
1. To investigate the relationship between cardiovascular disease and oral health, accounting for socioeconomic background.
2. To investigate the relationship between parental socioeconomic background and early adult oral health status.

COLLABORATORS: Dr Mark Gilthorpe, Dr Yu-Kang Tu (University of Leeds, UK), Professor George Davey Smith, Professor David Gunnell, Dr Bruna Galobardes (University of Bristol, UK), Dr Peter McCarron (Queen's University, Belfast, UK)

CPHR RESEARCHER: Mona Jeffreys

KEY WORDS: Foetal Origins of Adult Disease, Life-course Epidemiology, Cardiovascular Disease, Oral Health
AIMS:
1. Investigate the role of occupational risk factors in the aetiology of lung cancer in Central and Eastern Europe.
2. Investigate other factors including tobacco consumption, air pollution and genetic susceptibility.
3. Conduct this analysis after combining the datasets of individual centres.

COLLABORATORS:  
Dr Paolo Boffetta (International Agency for Research on Cancer, Lyon, France), Dr Tony Fletcher (London School of Hygiene and Tropical Medicine, London, UK), Dr Joelle Fevotte (Institut Universitaire de Médecine du Travail, UCB, France), Dr Dana Matěs (Institute of Hygiene, Public Health, Health Services and Management, Bucharest, Romania), Dr Peter Rudnai (National Institute of Environmental Health, Budapest, Hungary), Dr David Zaridze (Institute of Carcinogenesis, Cancer Research Centre, Moscow, Russia), Dr Eleonóra Fabiánová (Specialized State Health Institute, Banská Bystrica, Slovakia), Dr Witold Zatonski (Maria Sklodowska Institute of Oncology, Warsaw, Poland), Dr Neonila Szczęsniak-Dabrowska (Department of Epidemiology, Lodz, Poland), Dr Vladimir Janout (Department of Preventive Medicine, Palacky University of Medicine, Olomouc, Czech Republic), Dr Vladimir Benčko (Charles University of Prague, First Faculty of Medicine, Praha, Czech Republic), Dr Lenka Foretová (Department of Cancer Epidemiology, Masaryk Cancer Institute, Brno, Czech Republic), Dr Judith Youngson (Roy Castle International Centre for Lung Cancer Research, Liverpool, UK)

CPHR RESEARCHER: Andrea ‘t Mannetje

KEY WORDS: Lung Cancer, Occupation, Tobacco
10. International study of environment, viruses and cancer of the oral cavity and the larynx

AIMS:

1. To assess the role of known (i.e., occupation, smoking, alcohol drinking, fruit and vegetable intake) or putative (i.e., human papilloma virus (HPV) infection) risk factors for cancer of the oral cavity and the larynx in the study populations.

2. To investigate the presence and pattern of P53 mutations and to assess whether they differ according to exposure to risk factors.

3. To assess the role of genetic susceptibility mediated through genetic polymorphisms of enzymes potentially implicated in the metabolism of carcinogens.

COLLABORATORS: Dr Paul Brennan, Dr Paolo Boffetta (International Agency for Research on Cancer, Lyon, France), Dr Maria Paula Curado (Registro de Câncer de Goiânia, Associação de Combate ao Câncer em Goiás, Brazil), Dr Alexander Daudt (Cancer Prevention and Control Section, Hospital de Clínicas de Porto Alegre, Brazil), Dr Sergio Koifman (Escola Nacional de Saúde Pública, Fundação Oswaldo Cruz, Brazil), Dr Ana Menezes (Departamento de Clínica Médica, Faculdade de Medicina, Universidade Federal de Pelotas, Brazil), Dr Victor Wünsch-Filho (Departamento de Epidemiologia, Faculdade de Saúde Pública, Universidade de São Paulo, Brazil), Dr Elena Matos (Depto. de Carcinogenesis Quimica y Ambiental, Instituto de Oncologia Angel H. Roffo, Universidad de Buenos Aires, Argentina), Dr Leticia Fernandez (Institute of Oncology and Radiobiology, Havana, Cuba), Dr Jan Walboomers, Dr Peter Snijders (Department of Pathology, Free University Hospital, Amsterdam, The Netherlands), Dr Joelle Fevotte (Institut Universitaire de Médecine du Travail, UCB, Lyon, France)

CPHR RESEARCHER: Andrea ‘t Mannetje

KEY WORDS: Oral Cancer, Laryngeal Cancer, Lifestyle Factors, Occupation
AIMS:
1. To identify the contribution of Epstein-Barr virus, Human Immunodeficiency virus, Hepatitis C virus and Herpes virus 8 to the occurrence of lymphoid neoplasms.
2. To explore the potential associations of other infectious agents (Chlamydia, other related herpes virus, papovavirae virus) to the occurrence of lymphoid neoplasms.
3. To identify the contribution of specific occupational exposures (inorganic pesticides, organic pesticides, animal viruses, organic dust, organic solvents and radiation) to the occurrence of lymphoid neoplasms.
4. To explore the possible interactions between occupational/environmental factors and infectious agents.
5. To explore the possible contribution of exposure to ultraviolet radiation to the occurrence of lymphoid neoplasms.

COLLABORATORS:  Dr Paul Brennan, Dr Paolo Boffetta (International Agency for Research on Cancer, Lyon, France), Dr Silvia de Sanjosé (Oncology Institute, Barcelona, Spain), Dr Marc Maynadie (Hôpital du Bocage, Dijon, France), Dr Nikolaus Becker (German Cancer Research Centre, Heidelberg, Germany), Dr Anthony Staines (Department of Public Health, University College, Dublin, Ireland), Dr Jose Iscovich (International Fertility Institute, Raanana, Israel), Dr Lenka Foretova (Department of Cancer Epidemiology, Masaryk Cancer Institute, Brno, Czech Republic), Dr Martine Vornanen (Department of Clinical Pathology, Kuopio University Hospital, Kuopio, Finland), Dr Pier Luigi Cocco (Institute of Occupational Health, Cagliari, Italy)

CPHR RESEARCHERS: Andrea ‘t Mannetje, Lis Ellison-Loschmann

KEY WORDS: Lymphoid Neoplasms, Environmental Exposures, Infectious Agents, Occupational Exposures
12. Social capital: How does social connectedness work to benefit all?

AIMS:

1. To inquire into people’s understandings of their connections with others as positive assets.
2. To compare the shared meanings of social connectedness for people across groups of different levels of socioeconomic status.
3. To explore the meaning of social connectedness at different levels of connection, from individual to neighbourhood, to broader groups in society.
4. To inquire into the meaning of place as an aspect of social capital in relation to economic, cultural and symbolic capital.

COLLABORATORS: Dr Christine Stephens (School of Psychology, Massey University)

CPHR RESEARCHER: Neil Pearce

KEY WORDS: Social Connectedness, Social Capital
AIMS:
1. To investigate the impact of exposure to arsenic in drinking water on lung function and respiratory symptoms and diseases in children.
2. To assess possible synergy between ingested arsenic and inhaled indoor air pollutants from biomass burning and second-hand smoke on lung function and respiratory outcomes in children.
3. To investigate nutritional susceptibility to arsenic-related respiratory effects in children.
4. To assess whether or not methylation of arsenic to MMA3 and MMA5 as measured in urine affects the risks of arsenic-related respiratory system effects in children and to store remaining urine samples for other testing including proteomics.
5. To identify whether children with reduced height-for-age, weight-for-height, or weight-for-age are at increased risk of developing arsenic-related respiratory symptoms and impaired lung function, while considering modifying factors, particularly nutrition.
6. To start a cohort for long-term follow-up into late adolescence and young adulthood to investigate the relation of childhood arsenic exposure and lung function and respiratory effects later in life.

COLLABORATORS: Professor Allan Smith, Dr Ondine von Ehrenstein (University of California, Berkeley, USA)

CPHR RESEARCHERS: Neil Pearce, Jeroen Douwes

KEY WORDS: Arsenic, Asthma, Respiratory Disease, Child Health
AIMS:

1. To examine the associations of exposure to traffic fumes with childhood asthma and other respiratory symptoms.

2. To examine the effects of immigration to Italy on the prevalence of childhood asthma and other respiratory symptoms.

3. To examine the associations of maternal complications and procedures in pregnancy and at birth with the prevalence of childhood asthma and other respiratory symptoms.

COLLABORATORS: Dr Claudia Galassi, Professor Franco Merletti (University of Turin, Italy), Professor Francesco Forastiere (Local Health Authority, Rome, Italy)

CPHR RESEARCHER: Neil Pearce

KEY WORDS: Asthma, Child Health, Risk and Protective Factors, ISAAC, SIDRIA
AIMS:

2. To determine ethnic and socioeconomic trends in cancer survival in New Zealand.
3. To answer a range of specific research questions:
   i) Is the increasing colorectal cancer incidence among Pacific people evident for both overseas-born and New Zealand-born Pacific people?
   ii) Are the increasing ethnic and socioeconomic breast cancer mortality disparities due to trends in incidence, survival or both?
   iii) What is the contribution of active tobacco smoking to cancer incidence and trends?
   iv) What is the strength of the association of passive smoking with lung and other cancers?
   v) What are the trends in testicular cancer by ethnicity and socioeconomic position in NZ?

COLLABORATORS: Professor Tony Blakely, June Atkinson, Selwyn McCracken, Dr Caroline Shaw, Dr Diana Sarfati, Dr Sarah Hill (Wellington School of Medicine)

CPHR RESEARCHER: Mona Jeffreys

KEY WORDS: Cancer, Ethnicity, Trends, Social Class
AIMS:

1. Establish a cohort of lead-exposed workers in scheduled lead occupations in the 1970s and 1980s in Victoria, New South Wales and South Australia.

2. Measure the cancer incidence and mortality in this cohort, in particular for cancers of the kidney, central nervous system, stomach and lung.

3. Investigate dose-response relationships in this cohort of occupational lead exposure for those cancer subtypes where sufficient numbers exist.

COLLABORATORS: Associate Professor Malcolm Sim, Dr Geza Benke, Ewan MacFarlane (Monash University Centre for Occupational and Environmental Health, Australia), Associate Professor Lin Fritschi (Western Australian Institute for Medical Research, Australia), Dino Pisaniello (University of Adelaide, Australia)

CPHR RESEARCHER: Dave McLean

KEY WORDS: Cancer, Occupational Health, Lead
AIMS:
1. To investigate the relationship between socioeconomic status and the prevalence and incidence of asthma and chronic bronchitis using data from Phase II of the European Community Respiratory Health Survey (ECRHS II).
2. To investigate changes in these associations over time (between ECRHS I and ECRHS II).

COLLABORATORS: Professor Jordi Sunyer, Dr Jan-Paul Zock, Professor Josep Maria Antó, Professor Manolis Kogevinas (CREAL, Barcelona, Spain), Dr Deborah Jarvis (Royal Imperial College, London, UK), Dr Christer Jansen (Uppsala University, Uppsala, Sweden)

CPHR RESEARCHERS: Lis Ellison-Loschmann, Neil Pearce

KEY WORDS: Asthma, Socioeconomic Status, Time Trends
AIMS:
To investigate levels of IgE, IgM and IgG both prior to and post commencement of treatment, and evaluate lymphoma risk in relation to total and specific IgE levels.

COLLABORATORS: Dr Silvia de Sanjosé, Yolanda Benavente, Rebecca Font (Epidemiology and Cancer Registry Unit, Institut Catala d’Oncologia, Barcelona, Spain), Dr Enric Buendia (Immuniology-Allergy Dept, Hospital de Bellvitge, Barcelona, Spain), Dr Tomás Alvaro (Pathology, Hospital Verge de la Clinta, Tortosa, Spain), Professor Manolis Kogevinas (CREAL, Barcelona, Spain)

CPHR RESEARCHERS: Lis Ellison-Loschmann, Jeroen Douwes

KEY WORDS: Lymphoma, Immunoglobulins
Title: Parental barriers to uptake of free adolescent dental care for Year 11 students in the Nelson Tasman region  
*Supervisor: Neil Pearce*

Title: Evaluation of diabetes screening programme in Northland  
*Supervisors: Dr Nick Chamberlain (CCDHB), Mona Jeffreys, Neil Pearce*

Title: The National Children’s Nutrition Survey (2002): A Comparison of Urban and Rural Children  
*Supervisors: Dr Mike Hamlin (Lincoln University), Mona Jeffreys, Neil Pearce*

Title: What works for interviewing Māori?  
*Supervisors: Lis Ellison-Loschmann, Neil Pearce*

Title: Are paracetamol, antibiotics, and vaccinations association with asthma in farmers children and non-farming reference children?  
*Supervisor: Jeroen Douwes*

Title: Microbial contamination in drinking water of rural children  
*Supervisor: Jeroen Douwes*

Title: Adolescent use of the internet for health information  
*Supervisor: Mona Jeffreys, Neil Pearce*
Title: Factors influencing Māori women’s decisions about drinking alcohol during pregnancy: a qualitative study
Supervisors: Mona Jeffreys, Dr Maureen Holdaway (Research Centre for Māori Health and Development)

Masters students based in other research groups

Title: Fungal allergy and exposure to fungi in asthma
Supervisors: Professor Euan Tovey (Woolcock Institute for Medical Research, University of Sydney, Australia), Jeroen Douwes (based at the University of Sydney)

Title: Hydrogen sulphide exposure and potential associated health effects in the adult population of Rotorua
Supervisors: Dr Neil Vince (Department of Earth Sciences, Massey University), Jeroen Douwes (based at the Department of Earth Sciences, Massey University)
### Amanda Eng

**Title:** Epidemiological studies of occupational exposures and health effects in the New Zealand workforce  
*Supervisors: Andrea ‘t Mannetje, Neil Pearce*

### Ate Moala

HRC Pacific Health Research Training Fellow  
**Title:** Health promotion in Pacific people  
*Supervisors: Neil Pearce, Dr Sitaleki Finau (Massey University)*

### Fiona McKenzie

**Title:** Breast cancer survival in New Zealand  
*Supervisors: Mona Jeffreys, Lis Ellison-Loschmann, Neil Pearce*

### Naomi Brewer

**Title:** Epidemiological studies of cervical cancer in New Zealand  
*Supervisors: Mona Jeffreys, Lis Ellison-Loschmann*

### Sunia Foliaki

**Title:** Epidemiology of asthma in selected Pacific countries  
*Supervisors: Neil Pearce, Jeroen Douwes*  
Submitted and awarded 2007

### Wendyl D'Souza

**Title:** Epilepsy in Tasmania  
*Supervisors: Neil Pearce, Professor Simon Easteal (ANU, Canberra)*
Angus Cook

Title: Brain cancer in cell-phone users
Supervisors: Professor Alistair Woodward (University of Auckland),
Neil Pearce
Submitted and awarded 2007

Matt Soeberg

Title: Ethnic and Socioeconomic Trends in Cancer Survival in New Zealand: 1981-2004
Supervisors: Professor Tony Blakely (Wellington School of Medicine),
Mona Jeffreys
Lis Ellison-Loschmann
HRC Māori Health Postdoctoral Research Fellow
Title: Epidemiology and Māori health research
Supervisors: Neil Pearce, Mona Jeffreys, Professor Chris Cunningham (Research Centre for Māori Health & Development)

Ridvan Firestone
HRC Pacific Health Postdoctoral Research Fellow
Title: Life-course epidemiology of non-communicable disease
Supervisors: Jeroen Douwes, Mona Jeffreys, Neil Pearce

Sunia Foliaki
HRC Pacific Health Postdoctoral Research Fellow
Title: Cancer in Pacific populations
Supervisors: Neil Pearce, Mona Jeffreys
Museum Theatre, Massey Wellington Campus,
Tuesday, 30 October, 2007

Keynote Speakers:
Professor Gerard Reaven (Stanford University School of Medicine, USA)
Professor Kerin O'Dea (University of Melbourne, Australia)
Associate Professor Peter Snell (University of Texas, Dallas, USA; and Massey University, Wellington)

Other Speakers and Chairs:
Dr Kirsten Coppell (Edgar National Centre for Diabetes Research, University of Otago)
Professor Rod Jackson (School of Population Health, University of Auckland)
Professor Chris Cunningham (Massey University, Wellington)
Professor Neil Pearce (Massey University, Wellington)
Professor Norman Sharpe (National Heart Foundation, Auckland)
Dr Steve Stannard (Massey University, Palmerston North)

This was the sixth in a series of Annual Symposia in Health Research and Policy. The symposium was organised by the Massey University Research Centre for Māori Health and Development, and the Centre for Public Health Research. The presentations are available in downloadable form on our website.

Douwes J. Epidemiology of non-eosinophilic asthma.


Travier N, Jeffreys M, Brewer N, Wright CS, Cunningham CW, Hornell J, Pearce N. Association between glycosylated hemoglobin and cancer risk: A New Zealand linkage study.

Public Health Intelligence, Ministry of Health, Wellington, April, 2007.

Pearce N. Dioxin.


Pearce N. Methodological issues in cancer epidemiology: ecosystems, populations, cells, and molecules.

Pearce N. Time-related factors in occupational cancer cohort studies.

University of Turin, Italy, June 2007.

’t Mannetje A. Agriculture and non-Hodgkin's lymphoma: evidence from New Zealand.


van Dalen Christine, Harding H, Naing T, Pearce N. Spirometric testing for airflow obstruction in young adult asthmatics.


Cook A, Pearce N,


Pearce N. How do we decide the best methodology for estimating diabetes prevalence?


Wright C, Holmes E. Estimates of undiagnosed diabetes using HbA1c scores from the Hepatitis Foundation Screening Survey 2000

University of Turin, Italy, August 2007.

Brewer N. Cervical cancer in New Zealand.

Australian and New Zealand Association of Occupational Medicine (ANZSOM) Annual Conference, Queenstown, August, 2007

McLean D. Overview of recent occupational health research in New Zealand.

European Respiratory Society, Stockholm, Sweden, September, 2007

Douwes J. Epidemiology of eosinophilic and non-eosinophilic asthma.

PHI-Pacific Health Joint Analytical Workshop, Wellington, October, 2007

Foliaki S, Pearce N. Asthma in the Pacific.


Centre de Recerca en Epidemiologia Ambientale (CREAL), Barcelona, October, 2007.

Pearce N. Environmental epidemiology: survival challenges at the interface between science and policy.
Australasian Epidemiological Association (NZ Branch) Annual Workshop, Epidemiological thinking: current ideas in and about epidemiology, Christchurch, October, 2007.

Pearce N. The rise and rise of corporate epidemiology and the narrowing of epidemiology’s vision.

19th International Conference on Epidemiology in Occupational Health, Banff, Alberta, Canada, October, 2007

McLean D, Slater T, Cheng S, Pearce N, Douwes J. Respiratory effects of exposure to pine dust in New Zealand sawmill workers.

McLean D, Eng A, Walls C, Dryson E, Harawira J, Brooks C, ‘t Mannetje A, Gray M, Shoemack P, Pearce N. Serum dioxin levels in former sawmill workers 20 years after exposure to pentachlorophenol (PCP) ceased


McLean D. Epidemiology in occupational health research.

Wellington Occupational Medicine Interest Group, Petone, October, 2007


Pearce N. Studi epidemiologici sulla popolazione residente in aree ad elevato rischio di crisi ambientale in Sicilia (Epidemiological studies of populations living in areas at high environmental risk in Sicily).


Sithole F, Douwes J, Burstyn I, Veugelers PJ. Body mass index and childhood asthma: a linear association?
Publications

Journals


Checkoway H, Pearce N, Kriebel D. Seeking appropriate study designs to address specific research questions in occupational epidemiology. Occup Environ Med 2007; 64: 633-8.


Books and Reports


Other Publications

23 February - Neil Pearce. What causes asthma?

06 March - Carlos Camargo. Body Mass Index (BMI) and asthma.

13 March - Neil Pearce. Why we should all be Bayesians (and often are without realising it).

30 March - Neil Pearce. Dioxin.

08 May - Carlos Carmargo. Developing the U.S. Dietary Guidelines: Science and politics.

05 June - Neil Pearce. The analysis of variance and the analysis of causes: Genetics, race, ethnicity, obesity, exercise, energy intake, and why you shouldn’t use stepwise regression.

12 July - Naomi Brewer. Cervical cancer survival in New Zealand

31 July - Christine van Dalen. Spirometric testing for airflow obstruction in young adult asthmatics.

21 August - Michelle Gray. What works for interviewing Māori?

- Amanda Eng. Childhood socioeconomic status and mortality from stroke and ischaemic heart disease in New Zealand.

13 November - Nathaniel Marshall. Severe sleep apnea as an independent risk factor for all cause mortality: The Busselton Health Study Cohort
Advisory Committees

Advisory Board for Healthwise Alumina Workforce Studies. Monash University, Melbourne, Australia (Neil Pearce, Chair)

Advisory Board for New Zealand Guidelines Group (Ate Moala, Director)

Advisory Committee for Tasmanian Epilepsy Register (Neil Pearce)

Cancer Registration Advisory Committee. New Zealand Health Information Service, Ministry of Health (Neil Pearce)

Cancer Steering Committee, DHB Research Fund (HRC) (Mona Jeffreys)

Chronic Respiratory Diseases Expert Group, WHO Global Burden of Disease Project (Neil Pearce)

Committee on Guidance for Biological Agents in the Indoor Environment. World Health Organisation (WHO) (Jeroen Douwes)

Consultant Epidemiologist to the New Zealand Cancer Registry (Neil Pearce)


Independent Monitoring Group of the National Cervical Screening Programme (Mona Jeffreys, Chair, Naomi Brewer, Fiona McKenzie)

International Study of Asthma and Allergies in Childhood (ISAAC) Executive (Neil Pearce)

International Study of Asthma and Allergies in Childhood (ISAAC) Steering Committee (Neil Pearce, Sunia Foliaki)

International Epidemiology Association (Neil Pearce, President Elect and Council member)

Massey University Human Ethics Committee: Wellington (Dave McLean, Tania Slater)

Ministerial Advisory Panel on Work-related Gradual Process, Disease, or Infection. Accident Compensation Corporation (ACC) (Dave McLean)

National Advisory Committee on Health and Disability (National Health Committee). Ministry of Health (Neil Pearce)

National Cervical Screening Programme (NCSP) Indicator Review Group (Naomi Brewer)
National Occupational Health and Safety Advisory Committee (NOHSAC), Department of Labour (Neil Pearce, Chair)

Occupational Risks Expert Group, WHO Global Burden of Disease Project (Neil Pearce)

Organochlorines Technical Advisory Group. Ministry of Health (Andrea ‘t Mannetje, Dave McLean)

Pacific Advisory Drafting Group. Massey University (Sunia Foliaki)

Pasifika Medical Association of New Zealand (Ate Moala, Vice-President)

Scientific Advisory Committee, Defence Health Surveillance Program (DHSP), Department of Defence, Australia (Neil Pearce)

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